November 2012 Volume 1, Number 2

SASKATCHEWAN DISEASE CONTROL LABORATORY NEWSLETTER

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NEWS FROM THE SASKATCHEWAN DISEASE CONTROL LABORATORY

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Attachments

- Request for Electronic Copy
- Syphilis Algorithm
- Viral Infections 2012

SDCL Address:
5 Research Drive,
Regina, SK S4S 0A4

Highlights of This Newsletter:

NOTICE: If you want to receive future SDCL Newsletters by email (rather than hard copy), please fax back the attachment titled "Request for Electronic Copy" to (306) 787-1525 or send an email with your name, current address and email address (for newsletter delivery) to jromanuik@health.gov.sk.ca

On page 2 there is an update on HIV testing platform at SDCL that now detects both antibody and antigen.

On page 3 there is an overview on the new reference range for vitamin B12 level and vitamin D.

On page 4 there is an article on *Clostridium difficile* testing.

On page 5 there is an update on changes in syphilis testing methods at the SDCL. The initial EIA screen is a combined IgG/IgM assay.

Methylmalonic Acid:

Effective immediately, SDCL is no longer referring **methylmalonic acid (MMA)** testing to Calgary. This test will now be done in SDCL's Endocrinology Laboratory, which will mean a faster turn-around time for our customers. The SDCL online compendium will be changed to reflect the new turn-around time, which will be reduced from 3 weeks to 10 days. The sample collection requirements have not changed.

Calculi Test:

To request a Calculi test, use the "Other Tests" field at the bottom of the Chemistry and Immunoserology Requisition Doc 1400-55 SDCL003R v2.0. Include all the pertinent information.

SDCL Compendium Update:

- The SDCL Compendium of Tests is available on-line at http://www.health.gov.sk.ca/compendium
- The Compendium has been updated to include a **SEARCH** button on the first page.
- The Compendium will be updated monthly.
- Paper copies of the compendium are no longer available from the SDCL.

Saskatchewan Ministry of Health

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SERUM THYRO-GLOBULIN TESTING

"Thyroglobulin testing will now be available at SDCL"

Serum Thyroglobulin Testing:

Thyroglobulin testing will now be available at SDCL. Previously this test was forwarded to one of our referral laboratories.

Thyroglobulin is useful for monitoring patients who have undergone thyroidectomy and ablation and is also of value in determining the presence of thyroid metastasis to lymph nodes. The differential diagnosis of congenital hypothyroidism is also a well established context of use for this test.

All samples submitted for thyroglobulin will also be tested for thyroglobulin antibody levels, since they can interfere in the thyroglobulin assay. Thyroglobulin antibody levels of < 40 IU/mL are considered low enough to not interfere with the thyroglobulin assay.

Normal thyroglobulin levels in patients 16 years of age and older are < 50 pmol/L

Serum thyroglobulin concentrations are very low or undetectable in athyrotic individuals. In the absence of a significant thyroid remnant, elevated or rising serum thyroglobulin levels are suspicious of recurrent or persistent disease.

If patient monitoring over time is being performed, a new baseline should be established with this specific test methodology since thyroglobulin levels obtained with different methodologies may not be interchangeable. Serial thyroglobulin measurements should be made with the same method.

The analytical platform for performing thyroglobulin antibody remains the same.

The sample collection criteria remain the same: 4 mL serum (SST) or 4 mL plasma (lithium heparin). Ship frozen.

For more information contact:
Jeff Eichhorst, SDCL, (306) 787-3284

HIV TESTING UPDATE

"..introduced a 4th generation HIV serologic screening test.."

HIV Testing Update:

The SDCL has introduced a 4th generation HIV serologic screening test that detects both HIV antibody and p24 antigen simultaneously in serum samples. The p24 antigen is a protein produced by the virus immediately after infection. The result is reported as 'HIV Ag/Ab combo' (on the lab report). The main advantage of this test over the previous test is that the window period (time from infection to detection of a positive serological test) is reduced from about three weeks to two weeks, allowing the earlier detection of acute HIV infections.

Confirmatory testing of reactive screening tests will be performed using Western blot and p24 antigen tests in sequence. Positive results will also be reported to regional MHO and to the Ministry of Health co-ordinator of communicable disease control.

Reports issued on positive results that are confirmed by detection of p24 antigen in the absence of antibodies detected by Western Blot will contain the following comment:

"This specimen tested positive for HIV infection, confirmed by the detection of p24 antigen. The p24 antigen-positive specimens with negative or indeterminate antibody test results usually represent early HIV infection. Further specimens of serum and plasma should be collected after this report is received, for demonstration of an antibody response and viral load testing respectively. For further information, please see the following document: Public Health Agency of Canada (2009) Case Definitions for Communicable Diseases under National Surveillance. CCDR 2009;35S2:86-87 http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s2/HIV_VIH-eng.php"

The shorter window period offered by 4th generation screening assays allows earlier diagnosis following a risk event or exposure. Testing earlier after exposure can diagnose individuals in the acute phase of their infection, when viral loads are high and the risk of further transmission of HIV is also high.

SDCL VITAMIN B12 UPDATE

"SDCL has a new reference range for vitamin B12 levels."

SDCL Vitamin B12 Update:

Vitamin B12 (cobalamin) is necessary for hematopoiesis and normal neuronal function. Humans cannot synthesize vitamin B12 and therefore it has to be obtained through the diet. Vitamin B12 deficiency may be due to lack of Intrinsic Factor (IF) secretion by gastric mucosa (e.g. gastrectomy, gastric atrophy) or intestinal malabsorption (e.g. ileal resection, small intestinal diseases), or poor diet.

Pernicious anemia is a macrocytic anemia caused by vitamin B12 deficiency that is due to a lack of IF secretion by gastric mucosa.

SDCL has developed a new reference range for vitamin B12 levels:

Deficient: < 150 pmol /L
Borderline: 150 to 200 pmol /L
Normal value: > 200 pmol /L

The SDCL will reflex all vitamin B12 levels of < 110 pmol /L to intrinsic factor blocking antibodies to rule out pernicious anemia. Clinicians wanting parietal cell antibodies and gastrin will need to order these tests specifically.

Occasionally clinicians may find patients with B12 levels of 110 to 150 pmol /L with neurological symptoms, then consider ordering methylmalonic acid (MMA) to rule out vitamin B12 deficiency. An MMA level of $\geq$ 0.4 umol /L confirms vitamin B12 deficiency.

CHANGES FOR VITAMIN D TESTING

"New Vit D reference range"

"Aliquot sample for Vitamin D and include a separate requisition."

Reference Range Change for Vitamin D_3 Testing

There is a recent practice guideline published by the Endocrine Society about vitamin D_3 which suggests reference range standardization.

Endocrine Society Clinical Guideline Recommendations:

"We recommend using the serum circulating 25-hydroxyvitamin D [25(OH)D] level, measured by a reliable assay, to evaluate vitamin D status in patients who are at risk for vitamin D deficiency. Vitamin D deficiency is defined as a 25(OH) Vitamin D below 50 nmol/liter and vitamin D insufficiency as a 25(OH) Vitamin D of 50 - 70 nmol/liter. We recommend against using the serum 1,25-dihydroxyvitamin D [1,25(OH)2D] assay for this purpose and are in favor of using it only in monitoring certain conditions, such as acquired and inherited disorders of vitamin D and phosphate metabolism."

Holick, M. F. *et al.* (2011) Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. Journal of Clinical Endocrinology and Metabolism **96**:1911-1930.

SDCL has adjusted reference ranges to meet this guideline.

New Reference Range:

Deficient: < 50 nmol/L
Relative Insufficiency: 50 - 70 nmol/L
Optimal: > 70 nmol/L

SDCL has ascertained that light resistant sample tubes and caps are no longer required for Vitamin D analysis.

The Vitamin D samples must be **poured off of the clot or SST and transported to SDCL in a separate standard plastic tube** (no longer frozen). When submitting a sample for vitamin D testing, and there are there are other orders on the patient, an additional tube of blood and separate requisitions are required. Please position these samples into the blue foam racks inside the SDCL transport totes (and include any other samples on the same patient).

Please note: the requirements for the Referral test 1,25 - dihydroxy vitamin D3 (Vit D 125) has not changed - please freeze and ship frozen to SDCL.

For more information contact Jeff Eichhorst, SDCL, 787-3284

UPDATE ON CLOSTRIDIUM DIFFICILE DIAGNOSTIC TESTING

Update on *Clostridium difficile* diagnostic testing:

Clostridium difficile causes a spectrum of illness, ranging from mild, self-limiting diarrhea through to fulminant psudomembranous colitis. Rarely, ileus or toxic megacolon may develop.

C. difficile forms part of the normal large intestinal flora of small infants; most children carry the organism without any signs or symptoms at some time during their first year or two. As the child moves to a solid diet, the carriage rate decreases and detection is uncommon after the age of two. A small proportion of healthy adults (<5%) may be carriers, and carriage rates increase in the elderly, particularly in long term care units.

Disease caused by *C. difficile* results from the production of two toxins (A and B), which act on the large intestinal mucosa. Some strains of *C. difficile* are non-toxigenic and do not cause disease.

A case of *C. difficile* infection (CDI) is defined by the presence of symptoms (usually diarrhea) and either a stool test positive for *C. difficile* toxins or toxigenic *C. difficile*, or colonoscopic or histopathologic findings revealing pseudomembranous colitis.

Testing for *C. difficile* or its toxins should be performed only on diarrheal (unformed) stool, unless ileus due to *C. difficile* is suspected. Testing of stool from asymptomatic patients is not clinically useful, including use as a test of cure. Repeat testing during the same episode of diarrhea is of limited value and should be discouraged.

Current clinical practice guidelines for *C. difficile* recognise that no approaches to diagnostic testing offer perfect performance. Since the disease is caused by the toxins of *C. difficile*, tests that detect toxin are more specific than those that detect the organisms or its nucleic acids. However, all of the available toxin assays have limitations; EIA tests are relatively simple and give rapid results, but are of lower sensitivity. The tissue culture cytotoxin assay is significantly more sensitive, but this is a complex assay performed in reference laboratories and false-negative results may occur if the cytotoxin, which is relatively labile in stools, becomes degraded during transport. The cytotoxin assay has the added disadvantage that it requires 24-48 hr incubation.

Diagnostic tests that detect the organism but not the toxin(s) include the GDH antigen test (inexpensive, simple and rapid), culture (complex and time-consuming), and detection of *C. difficile* DNA by nucleic acid amplification tests (NAAT) (rapid but expensive).

Two-step algorithms are widely employed, in which the GDH antigen detection is followed by a test for toxin(s). The simplest and most rapid approach is to use an immunochromatographic test that permits the detection of both targets at the same time.

A positive result for antigen and toxin(s) should be regarded as a confirmed positive and a negative result for both should be regarded as a true negative. A small proportion of specimens (~10%) will be positive for antigen but toxin-negative. If these samples are tested for cytotoxin using the tissue culture neutralization test, some will be positive, which indicates the presence of toxin at titres below the limit of detection of the rapid test toxin component. The clinical significance of such results depends upon the pre-test likelihood of a positive result, highlighting the importance of testing only adult patients with diarrhea and a history suggestive of *C. difficile* infection.

Two diagnostic tests are available at the Saskatchewan Disease Control Laboratory. The tissue culture cytotoxin neutralization assay is performed on plain stools received within 48 hr of collection. Stools should be refrigerated but not frozen. Culture for *C. difficile* can performed on fresh stools that are submitted in Cary Blair transport medium or on stools that have been frozen at -20°C as soon as possible after collection. Cultures are performed only on patients involved in clusters suggestive of nosocomial infection or on patients who suffer from repeated recurrences of diarrhea after treatment. Requests for culture should be discussed with the Medical Director or one of the microbiologists. Isolates of *C. difficile* will be referred to the National Microbiology Laboratory for molecular typing.

References:

Clostridium difficile infection: how to deal with the problem (2009) London: Department of Health and Health Protection Agency. http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1232006607827

Guidelines for the management of *Clostridium difficile* infection (CDI) in all healthcare settings (2011) Regina: Saskatchewan Ministry of Health. http://www.health.gov.sk.ca/clostridium-difficile

Cohen, S. H. *et al.* (2010) Clinical practice guidelines for *Clostridium difficile* infection in adults: 2010 update by the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA). Infection Control and Hospital Epidemiology **31**:431-455.

Sharp, S. E. et al. (2010) Evaluation of the C.Diff Quik Chek Complete assay, a new glutamate dehydrogenase and A/B toxin combination lateral flow assay for use in rapid, simple diagnosis of *Clostridium difficile* disease. Journal of Clinical Microbiology **48**:2082-2086.

INFLUENZA UPDATE

"From Saskatchewan west...influenza A(H3N2) was more common."

Influenza Update:

Throughout the 2011-2012 influenza season, different viruses predominated in different parts of the world in the northern hemisphere. In North America, Canada had a slight predominance of influenza B over influenza A(H3N2) (67% vs 33% respectively) particularly later in the season but the distribution was not uniform across the country. From Saskatchewan west the proportions were reversed, and A(H3N2) was more common. In the United States of America (USA) A(H3N2) was more common, however, the season in Mexico was dominated by influenza A(H1N1)pdm09.

In Europe, the large majority of influenza viruses were influenza A(H3N2) with only very small numbers of A(H1N1)pdm09 and B. In Asia, northern China and Mongolia reported mostly influenza B early in the season with influenza A(H3N2) appearing later. This sequence was reversed in the Republic of Korea and Japan where, A(H3N2) was predominant in the beginning and type B appeared later.

Early in the season, most viruses tested were antigenically related to those found in the 2011-2012 Northern Hemisphere influenza vaccine. However, by mid-season divergence was noted in both the USA and Europe in the A(H3N2) viruses tested.

Significant numbers of A(H3N2) viruses tested showed reduced titer with the antiserum produced against the 2011-2012 vaccine virus A/Perth/16/2009. Similarly, influenza B detections changed from B/Brisbane/60/2008 (Victoria lineage) to B/Wisconsin/ 01/2010 (Yamagata lineage).

As a result the influenza A(H3N2) and influenza B components of the 2011-2012 Northern Hemisphere vaccine formulation will change. Both the World Health Organization (WHO) and FDA's Vaccines and Related Biological Products Advisory Committee (VRBPAC) have recommended that the 2012-2013 Northern Hemisphere vaccine formulation contain A/California/7/2009-like (2009 H1N1), A/Victoria/361/2011-like (H3N2) and B/Wisconsin/1/2010-like (B/Yamagata lineage) viruses. This recommendation was based on global influenza virus surveillance data related to epidemiology and antigen characteristics, serological responses to 2011-2012 trivalent vaccines, and the availability of candidate strains and reagents.

SYPHILIS TESTING UPDATE

"new test detects both IgG & IgM antibodies in combination."

Syphilis Testing Update:

SDCL has recently implemented a new screening test for syphilis. The new test detects both IgG and IgM antibodies in combination. As a result, a separate test for IgM antibodies has been discontinued.

As before, all reactive results will be followed by another treponemal test (TPPA) and a non-treponemal test (RPR). Reactive RPR results are further titred to give therapeutic information. A four fold rise or fall in RPR titre is consistent with active syphilis.

See appendix B for interpretations of results. For example, reactive screening tests with TPPA non-reactive and RPR non-reactive are most likely biological false positives, and would only be repeated in high risk patients. All samples reactive by screening immunoassay and TPPA (with or without RPR reactivity) are reported to the regional MHO's office.

The RPR cannot be used to diagnose neurosyphilis. In conjunction with positive blood serology, a positive VDRL on CSF is a specific indicator of syphilis, but its sensitivity is about 50%, so it does not rule out neurosyphilis. Syphilis treatment (benzathine penicillin) is available from public health.

The Canadian Guidelines on Sexually Transmitted Infections (http://www.phac-aspc.gc.ca/std-mts/sti-its/index-eng.php) recommend universal screening in the first trimester of pregnancy, and in women at high risk of acquiring syphilis screening should be repeated at 28-32 weeks gestation.

Any women delivering a stillborn infant at > 20 weeks gestation should be screened for syphilis. If a mother did not have syphilis serology undertaken during pregnancy, then it should be arranged after delivery, before discharge.

For further information regarding the new test, or the testing algorithm, please contact Jim Putz, Section Manager of Immunoserology, at 787-4948.

PACKAGING OF SAMPLES FOR TRANSPORT

Packaging of Samples for Transport:

As we have completed a number of visits to the health regions in the province, we would like to take this opportunity again to thank you for your willingness to assist us with some of the SDCL packaging requirements that were rolled out earlier this year.

To ensure the samples you send to SDCL are processed efficiently and in a timely manner, we ask that you please review the following critical key points with your staff:

Pink Foam Rack Usage:

Only samples submitted for any of the **pink highlighted** tests on SDCL's Chemistry/Immunoserology Sample Collection Poster (Doc 25200-00 QM142 V2.0) (a laminated copy of this poster is available from SDCL) are to be sent to SDCL in a pink foam rack. Samples submitted to SDCL in a pink foam rack are directed to SDCL's track system for high volume testing. If a client inadvertently places a low volume test in the pink foam rack, it will not be found until later in the day. This may cause the sample to be rejected due to the delay in handling, and is especially critical for those samples that are time sensitive or need to be shipped out same day for referral testing. This can be a costly mistake and impacts the patient who must be recalled for another sample.

Blue Foam Rack Usage:

Place all samples, which are not highlighted in pink on SDCL's Chemistry/Immunoserology Sample Collection Poster (Doc 25200-00 QM142 V2.0), into **blue foam racks** prior to shipping them in the SDCL totes. This will ensure time sensitive test orders are processed immediately, and include test samples shipped to Referral labs (e.g. EBV IgG, BK Virus, Dengue Fever, Rast etc.) and for other SDCL tests, such as MSS, toxicology, PKU, chlamydia, virology or microbiology. A good rule of thumb is to place all tests not highlighted in pink on the poster into a Blue foam rack. Upon receipt, SDCL fast-tracks samples received in blue foam racks so that the **time sensitive** samples are not compromised by a delay on site and will then meet sample transport requirements for testing on site or shipping on to referral labs.

A commonly asked question from our customers is, "when I send a serum sample(s) for multiple tests, some of which appear on the chart to be put in the pink foam rack and others which are not, should I use a pink or blue foam rack?" In this instance **place all samples** for the **same patient together in the blue rack**, enabling our staff to sort them upon arrival. The corresponding requisition(s) must be kept together and placed in proper order for that particular rack.

Green SDCL TOTES:

Please be reminded, all samples processed at SDCL must be sent in a **green SDCL sample transport tote**. For your convenience, our Compendium of Tests can be found on our website http://www.health.gov.sk.ca/compendium

Burgundy RQHR Totes:

When shipping samples designated for Regina Qu'Appelle Health Region (RQHR), please use the **burgundy coloured RQHR totes**. For RQHR test information, please access the RQHR Lab Services Manual located at the following link: http://www.rqhealth.ca/programs/lab/pdf_files/lab_services_manual.pdf

CONTACTS NUMBERS

Which Phone Number?

REMEMBER CALL 787-3131 for information from the SDCL

The Saskatchewan Disease Control Laboratory (SDCL) phone tree **(306) 787-3131** has been created to help assist with timely response to client inquiries. Provided is a list of the tree numbers and information that clients will access when choosing a number

Hours of Operation: 8:00 a.m. to 5:00 p.m. Monday to Friday
7:30 a.m. to 4:00 p.m. Saturday
Evenings and Weekend Emergency and After Hours Service, see #8 for cell numbers.

Press 1: Test Results or to arrange STAT Testing

Identify who you are, institution and if you are calling for:

a) Lab results;
b) Specimen receipt and/or status;
c) STAT testing (organ donors or needle stick exposure), call will be transferred to the appropriate section; or
d) Requests for technical information, call will be transferred to appropriate section.

Press 2: Compendium Information (listen only) - To access the on-line compendium go to www.health.gov.sk.ca/compendium.

Press 3: Out of Province or Country Referrals - For information on tests referred out-of-province or country.

Press 4: Exceptions to Provide Missing Information - To provide missing specimen information that has been requested by SDCL staff.

Press 5: Maternal Serum Screening - For results on maternal serum screening samples submitted.

Press 6: Water Samples - For results on water samples submitted.

Press 7: Shipping and Supplies - For example, requests for requisitions or transport media such as SAF, Carey Blair or viral for specimens submitted to the Saskatchewan Disease Control Laboratory.

Press 8: Emergency and After Hours Service (Evenings and Weekend) (listen only)

STAT Toxicology	536-4653
STAT Serology/Prenatal results, organ donor testing & occupational exposure to blood borne pathogens	537-0639

If you wish to repeat this menu please stay on the line.

Paper Requests

Requests for Add-on Tests or Laboratory Results (Outside "Circle of Care"):

1. The SDCL does not accept verbal requests for testing and requires a faxed (or hard copy) request (or requisition) be submitted for add-on test requests.
2. If a request for laboratory results for a patient is made by someone not obviously identified as in the "circle of care", before release of results can occur, the SDCL requires a "signed release of medical information form" to be faxed to (306) 787-9122. For a copy of the release form, contact SDCL at (306) 787-3131.

Saskatchewan

Ministry of Health

Saskatchewan Disease Control Laboratory

5 Research Drive
Regina, Canada S4S 0A4
Fax # (306) 787-1525

Request For Electronic Copy

FAX Transmittal Form to SDCL

Date: _____

To: Attention: Janette Romanuik — FAX #: (306) 787-1525
Saskatchewan Disease Control Laboratory — PH. #: (306) 787-8636

From: _____ FAX #: _____

_____ PH. # _____

Re: Request to Receive SDCL Newsletter Electronically

Number of Pages 1

I would like to receive the SDCL Newsletter electronically. All my information is listed below.

Name	Address	Phone Number	Email Address

This transmission is intended only for the recipient(s) listed above, and may contain information that is confidential or time sensitive. If you are not the intended recipient, please notify the sender, and note that any use, disclosure, copying or communication of the contents of this transmission is prohibited.

Scenario	Syphilis Screen	TPPA	RPR	Interpretation or Action
1	Non-Reactive	Not Applicable*	Not Applicable*	No serological evidence of current or past infection. If risk factors for syphilis or signs/symptoms are consistent with primary syphilis repeat in four weeks.
2	Reactive **	Reactive/ Indeterminate/ Repeat Reactive	Non-Reactive	**Most likely interpretations include:** • biological false positive • early primary syphilis • treated syphilis • person from a country endemic for yaws, pinta or bejel. **Recommended Action:** If risk factors for syphilis or signs/symptoms are consistent with early syphilis, discuss with MHO or do a one time repeat test in 4 - 6 weeks for a change in RPR titre.
	Reactive **	Reactive/ Indeterminate/ Repeat Reactive	1:1 < 1:8	**Notes:** ▪ A four fold rise or fall in RPR titre is consistent with active syphilis ▪ With a reactive Syphilis Screen and symptoms of neurosyphilis, submit a CSF for VDRL. The RPR activity cannot be used to diagnose neurosyphilis. Do not submit CSF for VDRL if patient is not seropositive, as the Positive Predictive Value in seronegative patients is very low.
3	Indeterminate	Not Applicable *	Not Applicable *	Repeat serology in 2-4 weeks.
4	Reactive	Non-reactive	Non-reactive	**Interpretation:** May represent a biological false positive. **Recommended Action:** Repeat serology in 2-4 weeks.
5	Reactive **	Reactive/ Indeterminate/ Repeat Reactive	1:8	**Interpretation:** May be infectious syphilis if no previous history of syphilis. **Recommended Action:** Consult with MHO for possible treatment. Repeat serology in 4 weeks to follow RPR titre. **Notes:** ▪ A four fold rise or fall in RPR titre is consistent with active syphilis ▪ With a reactive Syphilis Screen and symptoms of neurosyphilis, submit a CSF for VDRL. The RPR activity cannot be used to diagnose neurosyphilis. Do not submit CSF for VDRL if patient is not seropositive, as the Positive Predictive Value in seronegative patients is very low.

Scenario	Syphilis Screen	TPPA	RPR	Interpretation or Action
6	Reactive **	Reactive/ Indeterminate/ Repeat Reactive	1:16 or greater	**Interpretation:** Consistent with active infectious syphilis. **Recommended Action:** Consult with MHO for possible treatment. Repeat serology in 4 weeks to follow RPR titre. **Notes:** ▪ A four fold rise or fall in RPR titre is consistent with active syphilis ▪ With a reactive Syphilis Screen and symptoms of neurosyphilis, submit a CSF for VDRL. The RPR activity cannot be used to diagnose neurosyphilis. Do not submit CSF for VDRL if patient is not seropositive, as the Positive Predictive Value in seronegative patients is very low.
7	CSF reactive by VDRL which is consistent with neurosyphlilis			CSF was submitted to rule out neurosyphilis
8	CSF is reactive by VDRL:consistent with neurosyphilis, only 50% sensitivity, negative result is of no value			
9	If the patient is asymptomatic and the repeat RPR remains equal to or less than 1:8; there is no serological evidence of acute syphilis			ACTION: no further testing is warranted.

* - If Syphilis Screen is Non-Reactive or Indeterminate no further testing is done on that sample.
** SDCL reports to Medical Health Officer

NOTES:

- A four fold rise or fall in RPR titre is consistent with active syphilis
- With Syphilis Screen reactivity and symptoms of neurosyphilis, submit CSF for VDRL. The RPR reactivity cannot be used to diagnose neurosyphilis.
- Syphilis treatment (benzathine penicillin IM) is available from public health.

Laboratory Evidence of Human Viral Infections - # of positive Findings 2012

Date	Adenovirus	Astro/Calicivirus	Coronavirus	Coxsackie virus	CMV	EBV	Echovirus	Enterovirus NT	Entero/Rhino	HAV	HBV	HCV	HIV-1	HSV-1	HSV-2	Influenza A(H1N1)pdm09	Influenza A(H3N2)	Influenza A - not subtyped	Influenza B	MPV	Measles*	Molluscum contagiosum	Mumps*	Norovirus	Parainfluenza	Parvovirus	RSV	Rotavirus	Rubella*	Varicella zoster	WNV
Jan-12	18		5		5	6		3		2	10	58	15	18	8	3	51	1	1	57	2			50	33		23	12		5	
Feb	5				6	8				2	9	65	17	17	6	8	79	1		38	3			57	17		38	34		8	
Mar	12	1	6	1	11	7		1		4	16	64	20	20	15	22	88	5	21	32	4		2	34	15		66	78		9	
Apr	11				2	5		1	4	2	10	69	25	15	14	6	25	2	17	6	2			27	10	1	73	78	1	5	
May	15			1		11			1	2	12	71	21	15	13	3	4		10		2		2	19	21	2	52	40		4	
June	13			3		6		1	8	3	12	88	23	19	15				1	2				2	13	1	28	7	1	8	
July	18			5	4	5	5	3	9	2	12	43	33	19	13					1	2		1		21		6	3		8	
Aug	8			4	5	6		14	34	2	15	72	17	18	14						2			6	7		4	1		3	
Sept	9			3	2	9	2	13	35	0	5	72	20	18	9						1		1	9	6		5	1	1	2	
Oct	7			4	4	9		10	2	2	14	61	20	22	7						2			38	12	3	17			2	
Nov																															
Dec																															
Totals	61	1	11	2	24	37	0	5	5	12	57	327	98	85	56	42		9	49	133	13	0	4	187	96	3	252	242	1	31	0

* Possible vaccine induced cases have not been removed (measles, mumps and rubella)